

### REMARKS

Claims 1-9 and 13-15 stand rejected and are presented for further examination in view of the following remarks.

**Rejections under 35 U.S.C. § 102(e) as anticipated by Warner (U.S. Patent Publication No. 2002/0086774)**

The Examiner rejected independent Claim 1 as being anticipated by U.S. Patent Publication No. 2002/0086774 to Warner.

Claim 1 recites, among other limitation, “moving an engagement assembly coupled to the resistance element at a highest achievable velocity through an exercise stroke.” The method requires a user to attain “a highest achievable velocity” over a series of increasing resistance levels. By only attaining “a highest achievable velocity” of the engagement assembly can the method subsequently determine “a maximum power for the muscle group” as also recited in Claim 1. Warner does not disclose at least both of these steps.

The Examiner states, “The maximum velocity at which the engagement assembly is moved during a plurality of exercise strokes is determined in that all data for a workout session is recorded [303]”. In other words, a user of the Warner system may achieve a velocity during a first repetition that is different than the velocity achieved during a second repetition. However, just because the two velocities are different does not mean that either velocity is the highest achievable velocity. The method recited in Claim 1 requires the user to attain their “highest achievable velocity”, not merely a velocity that is higher than another velocity. Nowhere does Warner disclose that the user will attain “a highest achievable velocity” as recited in Claim 1.

Warner not only does not disclose attaining “a highest achievable velocity”, but actually teaches away from the cited limitation. Warner is directed to a data logger and pacing system for a repetitive-motion machine. See [033], emphasis added. The system paces an athlete’s workout by dynamically monitoring the pace of repetitions and warning the user if the pace deviates from the pre-programmed routine. As explained in Warner, the first processing step performed by the system is to calculate a pacing interval based on the number of repetitions and the max time allowed for the set. See [0293]. Thus the system knows how many repetitions the user is supposed to do before a given set is completed. Based on sensor input, the system can tell the user to go slower or faster. See [0040]. The system uses tones to pace the user in the weight

room by indicating a too slow or too fast pace. See [0042]. For too fast of a pace, the system broadcasts a tone representing a "too fast" condition. See [0296] and block 251 of Figure 10. Thus, the system in Warner is designed to ensure a user maintains a constant pace during a workout. Such a system is the antithesis of the method described in Claim 1 which requires the user to attain "a highest achievable velocity."

Because a user of the system in Warner does not attain a "highest achievable velocity," Warner can not determine "a maximum power for the muscle group" as also recited in Claim 1. The Examiner cited to the determination of a "power peak 600" in Warner as corresponding to the claimed "maximum power." For the same reason that the different velocities achieved by a user of the Warner system are not the highest achievable velocity, the "power peak" in Warner is also not a "maximum power" as the phrase is used in Claim 1. Warner is consistent with Applicant's interpretation in that the value is called a "peak power," not a maximum power. Thus, Applicant respectfully submits that at least the limitations recited above are not disclosed in the Warner reference. Accordingly, the Warner reference can not anticipate Claim 1.

Further, without "determining a maximum power for the muscle group," the Warner system fails as a diagnostic tool as described in Applicant's specification. Determining a user's power over a range of resistance levels allows (1) a trainer or therapist to tailor exercises to the user's capabilities and goals; (2) evaluation of aspiring athletes with respect to anticipated power requirements for their activity; and (3) a comparison of a user's results with norms of persons in the user's population. The system in Warner does not provide these same advantages.

As explained in Applicant's specification and illustrated in Figure 11, the described method can be advantageously used to determine the resistance level and velocity where a person has the greatest power. Figure 11 shows four continuous graphs with each graph representing plots of discrete data points. In general, the velocity graphs 1110, 1120 show that the maximum velocities occur at very low forces. In general, the power graphs 1130, 1140 start at relatively low values at the lower resistance levels. Since the amount of force is very low, the power is low. As the resistance level increases, the power increases generally steadily until the power reaches a maximum magnitude. As the resistance level continues to increase, the velocity continues to decrease and the power also decreases. Generally, the maximum power for the muscle group is not achieved at very low forces or very high forces but somewhere between the

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two. Applicant's Claim 1, not Warner, can be used to identify the velocity and force that corresponds to the maximum power.

From the graphs in Applicant's Figure 11, it can also be seen that the power reaches a maximum magnitude for different forces and velocities for the user's left arm and the user's right arm for the illustrated measurement sequence. A conditioning program can be developed to improve the symmetry of the user by tailoring the program based on the power differences between the left and right arms.

The described method can also be used to tailor exercises so that the maximum power is achieved at levels ideally suited for a particular activity. For example, certain athletic activities, such as competitive weight lifting, require maximum power at high levels of force while maintaining a moderate velocity at those levels. On the other hand, other athletic activities, such as for example, throwing baseballs, require maximum power at much higher velocities without requiring high levels of force. In between activities, such as shot putting, require maximum power at higher levels of force than throwing baseballs while maintaining a relatively high velocity.

The described method can also be used to gather data to develop graphs of the power of successful athletes and persons in other professions requiring physical ability to determine the resistance levels where such athletes and other persons produce the most power. This information can be advantageously used to evaluate aspiring athletes and other persons to determine how they compare to the anticipated power requirements for their activities. Armed with the information thus obtained, the person can develop a training program to properly condition the muscles to obtain the desired results.

**Rejections under 35 U.S.C. § 103(a) over MacFarlane (U.S. Patent No. 6,672,157) in view of Brock (U.S. Patent No. 6,231,481)**

The Examiner rejected independent Claim 1 as being unpatentable over U.S. Patent No. 6,672,157 to MacFarlane in view of U.S. Patent No. 6,231,481 to Brock. From MacFarlane, the Office Action is relying upon a combination of testing performed with a isotonic machine/power tester 10 (col. 11 line 13 to col. 12, line 11) and test results from a summary (col. 10, line 50-57) for disclosing all of the limitations of Claim 1 except for the "generating an output" limitation. The Examiner admitted that MacFarlane et al. fails to disclose generating an output that

represents at least the measured velocity and calculated power for a plurality of exercise strokes as recited in Claim 1. However, Brock was relied upon for disclosing the “generating an output” limitation.

MacFarlane discloses a portable power tester 10 for determining muscular power (Figures 4 and 5). However, the power tester 10 described in Example 1 does not “mov[e] an engagement assembly coupled to the resistance element at a highest achievable velocity through an exercise stroke” or “determin[e] a maximum power for the muscle group.”

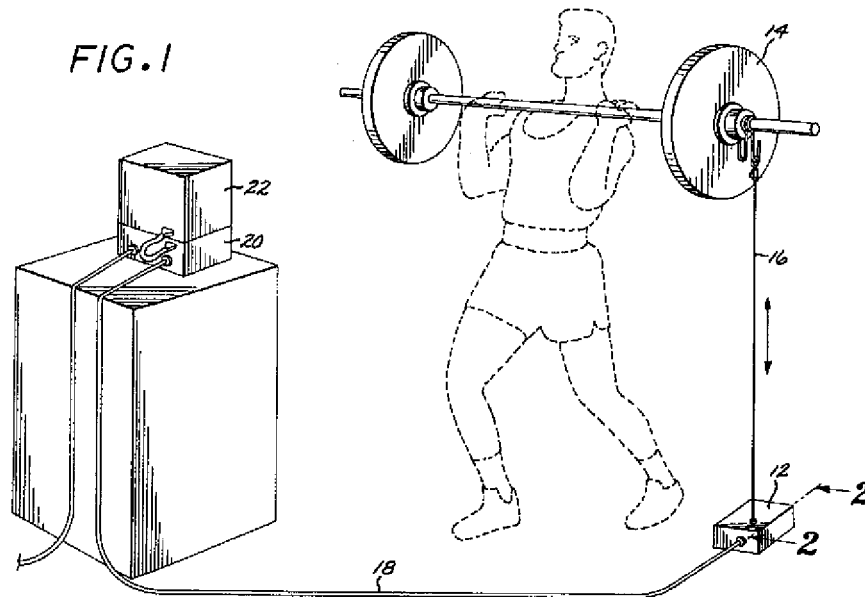
Example 1 from MacFarlane provides a comparison between power measurements for test subjects that used an isokinetic machine, a vertical jump machine, and an isotonic machine. Each of the three machines was used to separately determine a power for each subject. The power measurements were then compared in the summary (See col. 10, line 50 to col. 10, line 65).

The isotonic testing described in column 11 does not identify a maximum velocity at which the maximum power is achieved for a muscle group. McFarlane states, “For each resistance (60, 70, 80% 1Repetition Maximum), the right leg was tested three times then the left leg was tested three times.” (emphasis added). While the velocity of one of the three repetitions at each resistance level may be higher than the other two, it likely will not be “a highest achievable velocity” for that resistance level as recited in Claim 1 since McFarlane as with Warner does not mention measuring a maximum value or appreciate the advantage of measuring such a value. Thus, while isotonic testing with the power tester 10 of McFarlane measures time and distance to calculate velocity for each of the nine repetitions of a single leg, nowhere does McFarlane mention achieving a highest achievable velocity as recited in Applicant’s Claim 1.

Further, the “maximum measured power tester 10 power” described in the summary for all three machines (col. 10, line 50 to col. 10, line 65) can not be “a maximum power for the muscle group” as recited in Claim 1 since the three repetitions performed at each of the three resistance levels do not achieve “a highest achievable velocity” as explained above. One can determine from MacFarlane’s data which of the three or nine repetitions performed by a test subject results in the highest power value, but that power value is not “a maximum power for the muscle group”. Rather, MacFarlane’s highest power value is merely the highest value of the three or nine repetitions. This “highest value” is not the same as a maximum power for a muscle group since the speeds in MacFarlane are not “a highest achievable velocity.”

Thus, nowhere does MacFarlane describe “moving an engagement assembly coupled to the resistance element at a highest achievable velocity through an exercise stroke” and “determining a maximum power for the muscle group.” At least these elements are not disclosed or taught in MacFarlane. Brock does not cure this deficiency in MacFarlane.

The Examiner identified the reason why “it would have been obvious to one having ordinary skill in the art at the time the invention was made to include generating an output that represents at least the measured velocity and calculated power for a plurality of exercise strokes as taught by Brock with the method disclosed by MacFarlane et al. in order to assist a user in maximizing or optimizing his efforts.” Applicant respectfully disagrees on this point as well.



Brock discloses a device (above) that measures the power generated by a person and displays the power to the person in real time. A user of the system in Brock can try to increase his or her displayed peak power. However, the purported reason of “maximizing or optimizing his efforts” taken from Brock is unrelated to the purpose of the testing protocol cited in MacFarlane. The testing program in MacFarlane is intended to validate the accuracy of the power tester 10 on different machines. Accordingly, it would not have been obvious to one having ordinary skill in the art at the time the invention was made to combine Brock with MacFarlane as proposed by the Examiner.

Claims 2-9 and 13-15 depend directly or indirectly from Claim 1 and, thus, are patentable for at least the same reasons that Claim 1 is patentable over the applied art. Therefore, allowance of Claims 1-9 and 13-15 is respectfully requested.

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**Interview**

Applicant respectfully requests the opportunity to discuss this Response on December 9th or 10th during a personal interview with the Examiner before the Examiner issues a next Office Action. Applicant will shortly contact the Examiner to arrange a convenient time on December 9th or 10th for the interview.

**No Disclaimers or Disavowals**

Although the present communication may include alterations to the application or claims, or characterizations of claim scope or referenced art, the Applicant is not conceding in this application that previously pending claims are not patentable over the cited references. Rather, any alterations or characterizations are being made to facilitate expeditious prosecution of this application. The Applicant reserves the right to pursue at a later date any previously pending or other broader or narrower claims that capture any subject matter supported by the present disclosure, including subject matter found to be specifically disclaimed herein or by any prior prosecution. Accordingly, reviewers of this or any child or related prosecution history shall not reasonably infer that the Applicant has made any disclaimers or disavowals of any subject matter supported by the present application.

**CONCLUSION**

For the foregoing reasons, it is respectfully submitted that the rejections set forth in the outstanding Office Action are inapplicable to the present claims. Accordingly, early issuance of a Notice of Allowance is most earnestly solicited.

Any remarks in support of patentability of one claim should not be imputed to any other claim, even if similar terminology is used. Additionally, any remarks referring to only a portion of a claim should not be understood to base patentability on solely that portion; rather, patentability must rest on each claim taken as a whole. Applicant respectfully traverses each of the Examiner's rejections and each of the Examiner's assertions regarding what the prior art discloses or teaches, even if not expressly discussed herein.

Applicant has not presented all arguments concerning whether the applied references can be properly combined in view of the clearly missing elements noted above, and Applicant

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reserves the right to later contest whether a proper reason exists to combine these references and to submit evidence relating to secondary considerations supporting the non-obviousness of the method recited by the pending claims.


The undersigned has made a good faith effort to respond to all of the rejections in the case and to place the claims in condition for immediate allowance. Nevertheless, if any undeveloped issues remain or if any issues require clarification, the Examiner is respectfully requested to call Applicant's attorney in order to resolve such issue promptly.

Please charge any additional fees, including any fees for additional extension of time, or credit overpayment to Deposit Account No. 11-1410.

Respectfully submitted,

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